

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims. These claims are reflected in the substitute specification.

1. (Currently amended) A speed change controller ~~provided on for~~ a saddle-ride type vehicle, the controller and comprising:
 - a detection mechanism configured to ~~that~~ detects operation by a driver for speed change, and
 - a speed change mechanism that is configured to ~~as~~ perform as speed change on the basis of a speed change operation detected by the detection mechanism, and
 - wherein the detection mechanism comprises an operation part including a moving part, which moves relative to the vehicle on the basis of manipulation by a foot, and
 - a detection unit that detects that the moving part moves at least a predetermined amount ~~or more~~.
2. (Currently amended) The speed change controller according to claim 1, wherein the operation part comprises the moving part, a shift pedal configured to be directly manipulated by a foot, and a link member that connects ~~between~~ the pedal and the moving part.
3. (Currently amended) The speed change controller according to claim 2, wherein one end of the link member is ~~constructed to be~~ connectable to the moving part and attachable to an arm member provided on a shift shaft of the speed change mechanism.
4. (Currently amended) The speed change controller according to claim 2, wherein the moving part comprises a lever member provided to be able to turn, and
 - one end of the link member is ~~constructed to be~~ connectable to the lever member and attachable to an arm member provided on a shift shaft of the speed change mechanism.
5. (Original) The speed change controller according to claim 1, wherein the moving part is supported to be able to swing in two different vertical directions, and
 - the detection unit detects a direction, in which the moving part swings, and discriminates between shift-up and shift-down by the direction.
6. (Original) The speed change controller for saddle-ride type vehicles, according to claim 1, wherein the detection unit comprises a rotation sensor that detects that the moving part moves a predetermined angle about a predetermined rotating shaft.

7. (Currently amended) The speed change controller for saddle-ride type vehicles, according to claim 1, wherein the detection unit comprises at least one sensor in two to ~~respective~~ different ~~respective~~ directions, the sensors detecting that the moving part swings at least a predetermined amount ~~or more~~ in the two different directions from a predetermined reference position.

8. (Currently amended) The speed change controller according to ~~any one of~~ claims 1-~~to~~-7, wherein the detection mechanism comprises a base that supports at least the moving part and the detection unit, and

——the base is provided detachably on the vehicle.

9. (Currently amended) The speed change controller according to ~~any one of~~ claims 1-~~to~~-7, wherein the moving part is ~~constructed~~ configured to be movable by manipulation by a foot in two different directions with a predetermined neutral position therebetween, and

the operation part comprises a return mechanism that automatically returns the moving part, which moves in either of the directions by manipulation by a foot, to the neutral position.

10. (Currently amended) The speed change controller according to claim 9, wherein the detection mechanism comprises a base that supports at least the moving part, the detection unit, and the return mechanism, and

——the base is ~~provided~~ coupled to the vehicle.

11. (Currently amended) The speed change controller according to ~~any one of~~ claims 1-~~to~~-7, wherein the moving part is ~~constructed~~ configured to be movable by manipulation by a foot in two different directions with a predetermined neutral position therebetween, and

——the operation part comprises a stopper that restricts a moving range of the moving part, which moves in either of the directions by manipulation by a foot.

12. (Currently amended) The speed change controller according to claim 11, wherein the detection mechanism comprises a base that supports at least the moving part, the detection unit, and the stopper, and

——the base is provided detachably on the vehicle.

13. (Currently amended) The speed change controller according to ~~any one of~~ claims 1-~~to~~-7, wherein the detection mechanism comprises an operating force change~~ing~~ mechanism that is configured to change the torque required for operative movement of the moving part, and

— the operating force changeing mechanism is configured to changes torque required for movement of the moving part when or after the detection unit detects that the moving part moves at least a predetermined amount or more.

14. (Currently amended) The speed change controller according to claim 8, wherein the detection mechanism comprises an operating force changeing mechanism that is configured to changes the torque required for operative movement of the moving part, the operating force changeing mechanism being provided on the base, and

— the operating force changeing mechanism is configured to change the torque required for movement of the moving part when or after the detection unit detects that the moving part moves a at least a predetermined amount or more.

15. (Currently amended) The speed change controller according to claim 13, wherein the operating force changeing mechanism comprises a resistance portion, at least a part of which is deformable by elasticity, and an abutment formed in a position, in which it can contact with the resistance portion through at least manipulation by a foot immediately before the moving part can be detected by the detection unit, and

when the moving part moves through manipulation by a foot immediately before it can be detected by the detection unit, at least a part of the resistance portion is pushed by the abutment whereby an increase in the torque is realized, and the abutment is formed so that push against the resistance portion by the abutment is released or the push force is decreased when the moving part moves a predetermined amount, which can be detected by the detection unit.

16. (Original) The speed change controller according to claim 15, wherein the resistance portion comprises a surface portion in contact with the abutment and a spring portion connected to the surface portion, and

the abutment comprises a convex portion that pushes the surface portion when the moving part moves through manipulation by a foot immediately before it can be detected by the detection unit.

17. (Original) The speed change controller according to claim 15, wherein either of the resistance portion and the abutment is attached to the moving part, and

the resistance portion or the abutment moves together with the moving part.

18. (Currently amended) A speed change controller for provided on a saddle-ride-type vehicle, the speed change controller and comprising:

a detection mechanism that detects operation by a driver for speed change, and

a speed change mechanism that performs speed change on the basis of speed change operation detected by the detection mechanism, and

wherein the detection mechanism comprises an operation part including a loaded part, on which a load is applied by manipulation by a foot, and

a detection unit that detects the load applied on the operation part.

19. (Currently amended) The speed change controller according to claim 18, wherein the detection mechanism comprises a base that supports the loaded part and the detection unit, and

—the base is provided detachably coupled to the vehicle.

20. (Currently amended) The speed change controller according to any one of claims 1 to 7 and 18, wherein the detection mechanism is supported on a vehicle body frame, which constitutes the of a saddle-ride-type vehicle.

21. (Currently amended) The speed change controller according to any one of claims 1 to 7 and 18, wherein the operation part comprises a variable mechanism that can change that portion, which is directly manipulated by a foot, in a position relative to the vehicle.

22. (Currently amended) The speed change controller of claim 1 in combination with a saddle-ride-type vehicle comprising the speed change controller according to any one of claims 1 to 7 and 18.

23. (Currently amended) The speed change controller of claim 8 in combination with a saddle-type vehicle. A saddle-ride-type vehicle comprising the speed change controller according to claim 8.

24. (Currently amended) The speed change controller of claim 13 in combination with a saddle-ride-type vehicle comprising the speed change controller according to claim 13.

26. (New) The speed change controller of claim 18 in combination with a saddle-type vehicle.